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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

	Application No.	Applicant(s)
Office Action Summary	10/717,186	KOERNER ET AL.
	Examiner	Art Unit	
	Jay A. Morrison	2168	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>09 November 2007</u>.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-3 and 5-21</u> is/are pending in the application.

     4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-3 and 5-21</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

     a)☐ All   b)☐ Some * c)☐ None of:

        1.☐ Certified copies of the priority documents have been received.

        2.☐ Certified copies of the priority documents have been received in Application No. _____.

        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

     * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
     Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
     Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

Remarks

1.　　Claims 1-3 and 5-21 are pending.

Claim Objections

2.　　The specification is objected to as failing to provide proper antecedent basis for

the claimed subject matter as in claims 1-3, 5-8 and 14-21.　See 37 CFR 1.75(d)(1) and

MPEP § 608.01(o).　Correction of the following is required: "computer-readable media"

is not disclosed in the specification.

Claim Rejections - 35 USC § 101

3.　　35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

As per claims 9-13, these claims appear to conform to 35 USC 101

requirements. The claimed method produces a useful, concrete and tangible result and

seems to establish a practical application according to the specification, paragraph

[0025]. These claims appear to be directed to an appropriate **process** within the

meaning of 35 USC 101.

Claim Rejections - 35 USC § 112

4.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly
> claiming the subject matter which the applicant regards as his invention.

Claims 1,9 and 14 are rejected under 35 U.S.C. 112, second paragraph, as being

incomplete for omitting essential steps, such omission amounting to a gap between the

steps. See MPEP § 2172.01. The omitted steps are: how the data buffer can have a

logical key corresponding to a database of the data object. In database design a logical

key can correspond to column in a particular row of a database table, such as a primary

key, but the logical key cannot correspond to the database itself as claim, since there is

only a single database claimed so there is no need to differentiate between databases.

It appears that there is a step missing regarding specifying a table with the database or

some other meaningful explanation of how the logical key is located within the

database, since the limitation as written cannot be interpreted.

Claim Rejections - 35 USC § 103

5.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6.   Claims 1-3 and 5-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schafer et al. ('Schafer' hereinafter) ("DB-Prism: Integrated Data Warehouses and Knowledge Networks for Bank Controlling", Proceedings of the 26th International Conference on Very Large Databases, Cairo, Egypt, 2000) in view of Lee et al. ('Lee' hereinafter) ("A One-Pass Aggregation Algorithm with the Optimal Buffer Size in Multidimensional OLAP", Proceedings of the 28th VLDB Conference, Hong Kong, China, 2002) and further in view of Benson (Publication Number 2004/0225675).

        As per claim 1, Schafer teaches

A database system embodied in computer-readable media, the database system comprising: (see abstract)

a database; (database, section 1, first paragraph)

a plurality of application tools, each of the tools being configured to access data objects from the database, the tools comprising: a business reporting tool which performs online analytical processing business reporting operations, (Matplan/b2brain is flexible OLAP with report definitions for data viewing, section 4, first paragraph and first bullet point)

a business planning tool, integrated with the reporting tool, which performs online analytical processing business planning operations; (Matplan/b2brain with module for planning, section 4, first paragraph)

the modified version being a result of a change made by the one of the application tools to the data objects accessed from the database, (controlling workbench allows corrections, section 3.2)

Schafer does not explicitly indicate "based on one or more data objects accessed from a data buffer", "the data buffer configured to store a copy of the data objects accessed from the database" nor "the data objects buffered in the data buffer having a logical key corresponding to a database of the data object, a description of an aggregation level, and a description of a selection condition, the business reporting tool and the business planning tool requesting data from the data buffer having a specified aggregation level and a specified selection condition".

However, Lee discloses "based on one or more data objects accessed from a data buffer", "the data buffer configured to store a copy of the data objects accessed from the database" (buffer page contains similar records which a record reads on an object, section 2.1, second paragraph) and "the data objects buffered in the data buffer having a logical key corresponding to a database of the data object, a description of an aggregation level, and a description of a selection condition, the business reporting tool and the business planning tool requesting data from the data buffer having a specified aggregation level and a specified selection condition" (buffered pages have records with attributes enabling multi-attribute access, section 2.1, first and second paragraphs; note that the multi-attribute access reads on claimed attribute levels and selection condition since these are not made functional in any way).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Schafer and Lee because using the steps of "based on one or more data objects accessed from a data buffer", "the data buffer configured to store a copy of the data objects accessed from the database" nor "the data objects buffered in the data buffer having a logical key corresponding to a database of the data object, a description of an aggregation level, and a description of a selection condition, the business reporting tool and the business planning tool requesting data from the data buffer having a specified aggregation level and a specified selection condition" would have given those skilled in the art the tools to improve the invention by using an aggregation method that uses dynamic multidimensional files to adapt to skewed distributions and varying the sizes of page regions according to data densities in the

regions. This gives the user the advantage of better methods of managing resources for intensive applications.

Neither Schafer nor Lee explicitly indicate "a delta buffer configured to store a delta record, wherein the delta record characterizes a difference between the data objects and a modified version of the data objects"

However, Benson discloses "a delta buffer configured to store a delta record, wherein the delta record characterizes a difference between the data objects and a modified version of the data objects" (individual record deltas stored in the buffer, paragraphs [0040], lines 6-8, [0053], lines 12-16).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Schafer, Lee and Benson because using the steps of "a delta buffer configured to store a delta record, wherein the delta record characterizes a difference between the data objects and a modified version of the data objects" would have given those skilled in the art the tools to improve the invention by enabling synchronization between data sources. This gives the user the advantage of maintaining efficiency and information integrity between various data sources.

As per claim 2,

Neither Schafer nor Lee explicitly indicate "the delta buffer is configured to generate a cumulative delta record".

However, Benson discloses "the delta buffer is configured to generate a cumulative delta record" (paragraph [0035], lines 7-16).

It would have been obvious to one of ordinary skill in the art at the time the

invention was made to combine Schafer, Lee and Benson because using the steps of

"the delta buffer is configured to generate a cumulative delta record" would have given

those skilled in the art the tools to improve the invention by enabling synchronization

between data sources. This gives the user the advantage of maintaining efficiency and

information integrity between various data sources.

As per claim 3, Schafer teaches

the database is a multidimensional database. (section 1, second paragraph)

As per claim 5,

Neither Schafer nor Lee explicitly indicate "the delta buffer includes at least one

delta record and each delta record has a corresponding request identifier, and wherein

the request identifier is usable by a data object to represent the one or more delta

records that have been used to update a data object".

However, Benson discloses "the delta buffer includes at least one delta record

and each delta record has a corresponding request identifier, and wherein the request

identifier is usable by a data object to represent the one or more delta records that have

been used to update a data object" (paragraph [0035], lines 12-16).

It would have been obvious to one of ordinary skill in the art at the time the

invention was made to combine Schafer, Lee and Benson because using the steps of

discloses "the delta buffer includes at least one delta record and each delta record has

a corresponding request identifier, and wherein the request identifier is usable by a data object to represent the one or more delta records that have been used to update a data object" would have given those skilled in the art the tools to improve the invention by enabling synchronization between data sources. This gives the user the advantage of maintaining efficiency and information integrity between various data sources.

As per claim 6,

Neither Schafer nor Lee explicitly indicate "the delta buffer includes at least one delta record and the database system is configured to store the at least one delta record with data in the database".

However, Benson discloses "the delta buffer includes at least one delta record and the database system is configured to store the at least one delta record with data in the database" (paragraph [0035], lines 7-16).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Schafer, Lee and Benson because using the steps of "the delta buffer includes at least one delta record and the database system is configured to store the at least one delta record with data in the database" would have given those skilled in the art the tools to improve the invention by enabling synchronization between data sources. This gives the user the advantage of maintaining efficiency and information integrity between various data sources.

As per claim 7,

Neither Schafer nor Lee explicitly indicate "the data buffer and the delta buffer are parts of a system memory of a computer system".

However, Benson discloses "the data buffer and the delta buffer are parts of a system memory of a computer system" (paragraph [0134], lines 1-6).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Schafer, Lee and Benson because using the steps of "the data buffer and the delta buffer are parts of a system memory of a computer system" would have given those skilled in the art the tools to improve the invention by enabling synchronization between data sources. This gives the user the advantage of maintaining efficiency and information integrity between various data sources.

As per claim 8,

Neither Schafer nor Lee explicitly indicate "the delta buffer is configured to compress two or more delta records to generate a cumulative delta record".

However, Benson discloses "the delta buffer is configured to compress two or more delta records to generate a cumulative delta record" (paragraph [0056], lines 6-10).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Schafer, Lee and Benson because using the steps of "the delta buffer is configured to compress two or more delta records to generate a cumulative delta record" would have given those skilled in the art the tools to improve the invention by enabling synchronization between data sources. This gives the user the

advantage of maintaining efficiency and information integrity between various data

sources.

As per claim 9, Schafer teaches

A computer-implemented method comprising: (see abstract)

reading data from a database; (database, section 1, first paragraph)

the tools comprising: a business reporting tool which performs online analytical

processing business reporting operations, (Matplan/b2brain is flexible OLAP with report

definitions for data viewing, section 4, first paragraph and first bullet point)

and a business planning tool, integrated with the reporting tool, which performs

online analytical processing business planning operations; (Matplan/b2brain with

module for planning, section 4, first paragraph)

the modified version being a result of a change to the data object made by one of

the application tools; (controlling workbench allows corrections, section 3.2)

Schafer does not explicitly indicate "storing a data object in a data buffer, wherein

the data object includes the data read from the database", "accessing the data object

from the data buffer with one of a plurality of application tools", "based on one or more

data objects accessed from a data buffer" nor "the data objects buffered in the data

buffer having a logical key corresponding to a database of the data object, a description

of an aggregation level, and a description of a selection condition, the business

reporting tool and the business planning tool requesting data from the data buffer

having a specified aggregation level and a specified selection condition".

However, Lee discloses "storing a data object in a data buffer, wherein the data object includes the data read from the database", "accessing the data object from the data buffer with one of a plurality of application tools", "based on one or more data objects accessed from a data buffer" (buffer page contains similar records which a record reads on an object, section 2.1, second paragraph) and "the data objects buffered in the data buffer having a logical key corresponding to a database of the data object, a description of an aggregation level, and a description of a selection condition, the business reporting tool and the business planning tool requesting data from the data buffer having a specified aggregation level and a specified selection condition" (buffered pages have records with attributes enabling multi-attribute access, section 2.1, first and second paragraphs; note that the multi-attribute access reads on claimed attribute levels and selection condition since these are not made functional in any way).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Schafer and Lee because using the steps of "storing a data object in a data buffer, wherein the data object includes the data read from the database", "accessing the data object from the data buffer with one of a plurality of application tools", "based on one or more data objects accessed from a data buffer" nor "the data objects buffered in the data buffer having a logical key corresponding to a database of the data object, a description of an aggregation level, and a description of a selection condition, the business reporting tool and the business planning tool requesting data from the data buffer having a specified aggregation level and a specified selection condition" would have given those skilled in the art the tools to

improve the invention by using an aggregation method that uses dynamic

multidimensional files to adapt to skewed distributions and varying the sizes of page

regions according to data densities in the regions. This gives the user the advantage of

better methods of managing resources for intensive applications.

Neither Schafer nor Lee explicitly indicate "storing, in a delta buffer, a delta

record characterizing a difference between the data object and a modified version of the

data object" nor "and updating the data object in the data buffer with the delta record".

However, Benson discloses "storing, in a delta buffer, a delta record

characterizing a difference between the data object and a modified version of the data

object" (individual record deltas stored in the buffer, paragraphs [0040], lines 6-8,

[0053], lines 12-16) and "and updating the data object in the data buffer with the delta

record" (delta information for objects stored in a buffer, paragraph [0035], lines 12-22).

It would have been obvious to one of ordinary skill in the art at the time the

invention was made to combine Schafer, Lee and Benson because using the steps of

"storing, in a delta buffer, a delta record characterizing a difference between the data

object and a modified version of the data object" nor "and updating the data object in the

data buffer with the delta record" would have given those skilled in the art the tools to

improve the invention by enabling synchronization between data sources. This gives the

user the advantage of maintaining efficiency and information integrity between various

data sources.

As per claim 10,

Neither Schafer nor Lee explicitly indicate "compressing the delta buffer, wherein compressing the delta buffer includes generating a cumulative delta record".

However, Benson discloses "compressing the delta buffer, wherein compressing the delta buffer includes generating a cumulative delta record" (paragraph [0056], lines 6-10).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Schafer, Lee and Benson because using the steps of "compressing the delta buffer, wherein compressing the delta buffer includes generating a cumulative delta record" would have given those skilled in the art the tools to improve the invention by enabling synchronization between data sources. This gives the user the advantage of maintaining efficiency and information integrity between various data sources.

As per claim 11,

Neither Schafer nor Lee explicitly indicate "storing the delta buffer in the database, wherein storing the delta buffer in the database includes integrating the one or more delta records in the delta buffer with the corresponding data in the database".

However, Benson discloses "storing the delta buffer in the database, wherein storing the delta buffer in the database includes integrating the one or more delta records in the delta buffer with the corresponding data in the database" (paragraph [0035], lines 7-16).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Schafer, Lee and Benson because using the steps of "storing the delta buffer in the database, wherein storing the delta buffer in the database includes integrating the one or more delta records in the delta buffer with the corresponding data in the database" would have given those skilled in the art the tools to improve the invention by enabling synchronization between data sources. This gives the user the advantage of maintaining efficiency and information integrity between various data sources.

As per claim 12, Schafer teaches

the database is a multidimensional database. (section 1, second paragraph)

As per claim 13,

Neither Schafer nor Lee explicitly indicate "associating the delta record with a request identifier, wherein the request identifier is usable by a data object to represent the one or more delta records that have been used to update a data object".

However, Benson discloses "associating the delta record with a request identifier, wherein the request identifier is usable by a data object to represent the one or more delta records that have been used to update a data object" (paragraph [0040], lines 1-8).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Schafer, Lee and Benson because using the steps of

"associating the delta record with a request identifier, wherein the request identifier is

usable by a data object to represent the one or more delta records that have been used

to update a data object" would have given those skilled in the art the tools to improve

the invention by enabling synchronization between data sources. This gives the user the

advantage of maintaining efficiency and information integrity between various data

sources.

As per claim 14, Schafer teaches

An integrated business planning and reporting platform embodied in computer-

readable media, the platform comprising: (see abstract)

a database storing data; (database, section 1, first paragraph)

a business reporting tool which performs online analytical processing business

reporting operations; (Matplan/b2brain is flexible OLAP with report definitions for data

viewing, section 4, first paragraph and first bullet point)

a business planning tool, integrated with the reporting tool, which performs online

analytical processing business planning operations; (Matplan/b2brain with module for

planning, section 4, first paragraph)

the modified version being a result of a change made to the one or more data

objects by the reporting tool, the planning tool, or both. (controlling workbench allows

corrections, section 3.2)

Schafer does not explicitly indicate "a data buffer configured to store one or more

data objects, wherein the at least one data object includes data read from the

database", "based on the one or more data objects accessed from the data buffer" nor

"the data objects buffered in the data buffer having a logical key corresponding to a

database of the data object, a description of an aggregation level, and a description of a

selection condition, the business reporting tool and the business planning tool

requesting data from the data buffer having a specified aggregation level and a

specified selection condition".

However, Lee discloses "a data buffer configured to store one or more data

objects, wherein the at least one data object includes data read from the database",

"based on the one or more data objects accessed from the data buffer" (buffer page

contains similar records which a record reads on an object, section 2.1, second

paragraph) and "the data objects buffered in the data buffer having a logical key

corresponding to a database of the data object, a description of an aggregation level,

and a description of a selection condition, the business reporting tool and the business

planning tool requesting data from the data buffer having a specified aggregation level

and a specified selection condition" (buffered pages have records with attributes

enabling multi-attribute access, section 2.1, first and second paragraphs; note that the

multi-attribute access reads on claimed attribute levels and selection condition since

these are not made functional in any way).

It would have been obvious to one of ordinary skill in the art at the time the

invention was made to combine Schafer and Lee because using the steps of "a data

buffer configured to store one or more data objects, wherein the at least one data object

includes data read from the database", "based on the one or more data objects

accessed from the data buffer" and "the data objects buffered in the data buffer having a logical key corresponding to a database of the data object, a description of an aggregation level, and a description of a selection condition, the business reporting tool and the business planning tool requesting data from the data buffer having a specified aggregation level and a specified selection condition" would have given those skilled in the art the tools to improve the invention by using an aggregation method that uses dynamic multidimensional files to adapt to skewed distributions and varying the sizes of page regions according to data densities in the regions. This gives the user the advantage of better methods of managing resources for intensive applications.

Neither Schafer nor Lee explicitly indicate "a delta buffer configured to store a delta record characterizing a difference between the data objects and a modified version of the data objects"

However, Benson discloses "a delta buffer configured to store a delta record characterizing a difference between the data objects and a modified version of the data objects" (individual record deltas stored in the buffer, paragraphs [0040], lines 6-8, [0053], lines 12-16).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Schafer, Lee and Benson because using the steps of "a delta buffer configured to store a delta record characterizing a difference between the data objects and a modified version of the data objects" would have given those skilled in the art the tools to improve the invention by enabling synchronization between data

sources. This gives the user the advantage of maintaining efficiency and information integrity between various data sources.

As per claim 15,

Schafer does not explicitly indicate "a server program configured to manage the data buffer".

However, Lee discloses "a server program configured to manage the data buffer" (section 2.2, second paragraph).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Schafer and Lee because using the steps of "a server program configured to manage the data buffer" would have given those skilled in the art the tools to improve the invention by using an aggregation method that uses dynamic multidimensional files to adapt to skewed distributions and varying the sizes of page regions according to data densities in the regions. This gives the user the advantage of better methods of managing resources for intensive applications.

As per claim 16,

Neither Schafer nor Lee explicitly indicate "a server program configured to manage the delta buffer".

However, Benson discloses "a server program configured to manage the delta buffer" (paragraphs [0040], lines 1-8).

It would have been obvious to one of ordinary skill in the art at the time the

invention was made to combine Schafer, Lee and Benson because using the steps of "a

server program configured to manage the delta buffer" would have given those skilled in

the art the tools to improve the invention by enabling synchronization between data

sources. This gives the user the advantage of maintaining efficiency and information

integrity between various data sources.

As per claim 17, Schafer teaches

the reporting tool and/or planning tool (section 4, first paragraph)

Neither Schafer nor Lee explicitly indicate "generates the delta record".

However, Benson discloses "generates the delta record" (paragraph [0035], lines

6-12).

It would have been obvious to one of ordinary skill in the art at the time the

invention was made to combine Schafer, Lee and Benson because using the steps of

"generates the delta record" would have given those skilled in the art the tools to

improve the invention by enabling synchronization between data sources. This gives the

user the advantage of maintaining efficiency and information integrity between various

data sources.

As per claim 18,

Neither Schafer nor Lee explicitly indicate "the delta buffer stores at least one

delta record and each delta record corresponds to a request identifier, wherein the

request identifier represents at least one delta record that has been used to update a data object".

However, Benson discloses "the delta buffer stores at least one delta record and each delta record corresponds to a request identifier, wherein the request identifier represents at least one delta record that has been used to update a data object" (paragraph [0040], lines 1-8).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Schafer, Lee and Benson because using the steps of "the delta buffer stores at least one delta record and each delta record corresponds to a request identifier, wherein the request identifier represents at least one delta record that has been used to update a data object" would have given those skilled in the art the tools to improve the invention by enabling synchronization between data sources. This gives the user the advantage of maintaining efficiency and information integrity between various data sources.

As per claim 19,

Neither Schafer nor Lee explicitly indicate "the delta buffer is configured to compress two or more delta records to generate a cumulative delta record".

However, Benson discloses "the delta buffer is configured to compress two or more delta records to generate a cumulative delta record" (paragraph [0056], lines 6-10).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Schafer, Lee and Benson because using the steps of "the delta buffer is configured to compress two or more delta records to generate a cumulative delta record" would have given those skilled in the art the tools to improve the invention by enabling synchronization between data sources. This gives the user the advantage of maintaining efficiency and information integrity between various data sources.

As per claim 20,

Neither Schafer nor Lee explicitly indicate "the delta buffer includes at least one delta record and the database system is configured to store the at least one delta record in the database, wherein storing the at least one delta record includes integrating the at least one delta record with data in the database".

However, Benson discloses "the delta buffer includes at least one delta record and the database system is configured to store the at least one delta record in the database, wherein storing the at least one delta record includes integrating the at least one delta record with data in the database" (paragraph [0035], lines 7-16).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Schafer, Lee and Benson because using the steps of "the delta buffer includes at least one delta record and the database system is configured to store the at least one delta record in the database, wherein storing the at least one delta record includes integrating the at least one delta record with data in the

database" would have given those skilled in the art the tools to improve the invention by

enabling synchronization between data sources. This gives the user the advantage of

maintaining efficiency and information integrity between various data sources.

7.   Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schafer

et al. ('Schafer' hereinafter) ("DB-Prism: Integrated Data Warehouses and Knowledge

Networks for Bank Controlling", Proceedings of the 26th International Conference on

Very Large Databases, Cairo, Egypt, 2000) in view of Lee et al. ('Lee' hereinafter) ("A

One-Pass Aggregation Algorithm with the Optimal Buffer Size in Multidimensional

OLAP", Proceedings of the 28th VLDB Conference, Hong Kong, China, 2002) and

further in view of Benson (Publication Number 2004/0225675) and further in view of

Coud et al. ('Coud' hereinafter) (Patent Number 6,851,107).

        As per claim 21, Schafer teaches

        An integrated business planning and reporting platform embodied in computer-

readable media, the platform comprising: (see abstract)

        a database storing data; (database, section 1, first paragraph)

        a business reporting tool which displays reports and performs online analytical

processing business reporting operations; (Matplan/b2brain is flexible OLAP with report

definitions for data viewing, section 4, first paragraph and first bullet point)

a business planning tool, ... integrated with the reporting tool, which performs

online analytical processing business planning operations; (Matplan/b2brain with

module for planning, section 4, first paragraph)

and by the reporting tool, the planning tool, or both, the business planning tool

being operable to receive-user generated input modifying the data objects. (controlling

workbench allows corrections, section 3.2)

Schafer does not explicitly indicate "a data buffer configured to store one or more

data objects, wherein the at least one data object includes data read from the

database", "based on the one or more data objects accessed from the data buffer",

"based on one or more data objects accessed from the data buffer", nor "accessed from

the data buffer".

However, Lee discloses "a data buffer configured to store one or more data

objects, wherein the at least one data object includes data read from the database"

(buffer page contains similar records which a record reads on an object, section 2.1,

second paragraph), "based on the one or more data objects accessed from the data

buffer", "based on one or more data objects accessed from the data buffer", and

"accessed from the data buffer" (page access, section 2.2, second paragraph).

It would have been obvious to one of ordinary skill in the art at the time the

invention was made to combine Schafer and Lee because using the steps of "a data

buffer configured to store one or more data objects, wherein the at least one data object

includes data read from the database", "based on the one or more data objects

accessed from the data buffer", "based on one or more data objects accessed from the

data buffer", and "accessed from the data buffer" would have given those skilled in the art the tools to improve the invention by using an aggregation method that uses dynamic multidimensional files to adapt to skewed distributions and varying the sizes of page regions according to data densities in the regions. This gives the user the advantage of better methods of managing resources for intensive applications.

Neither Schafer nor Lee explicitly indicate "a delta buffer configured to store a delta record characterizing a difference between the data objects and a modified version of the data objects, the modified version being a result of a change made to the one or more data objects".

However, Benson discloses "a delta buffer configured to store a delta record characterizing a difference between the data objects and a modified version of the data objects, the modified version being a result of a change made to the one or more data objects" (individual record deltas stored in the buffer, paragraphs [0040], lines 6-8, [0053], lines 12-16)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Schafer, Lee and Benson because using the steps of "a delta buffer configured to store a delta record characterizing a difference between the data objects and a modified version of the data objects, the modified version being a result of a change made to the one or more data objects" would have given those skilled in the art the tools to improve the invention by enabling synchronization between data sources. This gives the user the advantage of maintaining efficiency and information integrity between various data sources.

Neither Schafer, Lee nor Benson explicitly indicate "visually integrated" nor

"thereby resulting in a modification of a report being concurrently displayed by the

reporting tool".

However, Coud discloses "visually integrated" and "thereby resulting in a

modification of a report being concurrently displayed by the reporting tool" (views

synchronized, column 2, lines 48-52).

It would have been obvious to one of ordinary skill in the art at the time the

invention was made to combine Schafer, Lee, Benson, Coud because using the steps

of "visually integrated" and "thereby resulting in a modification of a report being

concurrently displayed by the reporting tool" would have given those skilled in the art

the tools to improve the invention by allowing the current views to be available in each

window or viewing pane. This gives the user the advantage of maintaining efficiency

and information integrity between various data sources.

Response to Arguments

8.   Applicant's arguments with respect to claims 1-3 and 5-21 have been considered

but are moot in view of the new ground(s) of rejection.

Conclusion

9.   Applicant's amendment necessitated the new ground(s) of rejection presented in

this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37

CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the date of this final action.

The prior art made of record, listed on form PTO-892, and not relied upon is

considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Jay A. Morrison whose telephone number is (571) 272-

7112. The examiner can normally be reached on M-F 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Tim Vo can be reached on (571) 272-3642. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

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Business Center (EBC) at 866-217-9197 (toll-free).

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